CMMI Process Improvement – Its not a Technical Problem, it's a People Problem!

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sinesses...

- Run operations as if they were a franchise
  - Every business process is standardized
  - Employees can easily be successful by following the processes as outlined
  - Everyone knows how to perform their job
  - Tasks are performed similarly on a repeatable basis and improved based on experience

- A quality process will yield a quality product

ng Concepts

- Great businesses are not built by extraordinary people, but by ordinary people doing extraordinary things
- To achieve this, a system is absolutely essential – it becomes the tools people use to increase productivity, to get the job done in a way that differentiates
- **If you haven't orchestrated your business, you don't own it!**

Source: *The e-Myth Revisited,* Michael E. Gerber, HarperCollins Publishers, 1995

Role

- It's management's job to develop systems and tools and teach people how to use them
- Its the people's job to use the tools and to recommend improvements based on their experience with them
- There is no such thing as undesirable work, only people who view certain kinds of work as undesirable – create an environment in which doing certain things is more important than not doing them
- Management makes sure employees understand the idea behind the work they are being asked to do
- **Avoid "Management by Abdication"!**

Source: *The e-Myth Revisited,* Michael E. Gerber, HarperCollins Publishers, 1995

ring Business Model Philosophy

estment

- Organizations typically invest 2%-4% of their IT budget on engineering improvement
- Organizations engaged in an engineering improvement effort experience 50%+ gains in productivity and a 25%+ decreases in post-release defects
- Average ROI was 5:1
- Example: An IT department with a $100M budget spending $4M on SPI can expect a $20M gain in productivity over 2 years

inciples of SPI

1. Major changes to the software process must start at the top
2. Effective change requires a goal and knowledge of the current process
3. Software process improvement requires investment
4. Ultimately, everyone must be involved
5. Software process changes will not be retained without conscious effort and periodic reinforcement
6. Change is continuous

Source: Humphrey, W.S. *Managing the Software Process.* Addison-Wesley, 1989

cepts

1. To improve the software process, someone must work on it
2. Unplanned process improvement is wishful thinking
3. Automation of a poorly defined process will produce poorly defined results
4. Improvements should be made in small, tested steps
5. Train, train, train!

Source: Humphrey, W.S. *Managing the Software Process.* Addison-Wesley, 1989

Transformation

- Improvement models like CMMI build on organizational transformation theory to drive effectiveness.
- Thus, it is imperative to understand organizational transformation theory in order to implement a franchisable engineering system and improve results.

s Transformation Best Practices

1. Establish a sense of urgency
2. Create the guiding coalition
3. Develop a vision and strategy
4. Communicate the change vision
5. Empower employees for broad-based action
6. Generate short-term wins
7. Consolidate gains and produce more change
8. Anchor new approaches in the culture

Source: John P. Kotter, Leading Change, Harvard Business School Press, 1996

g a Sense of Urgency

- Progression to subsequent organizational transformation phases is difficult, if not impossible, unless most managers honestly believe that the status quo is unacceptable

e Guiding Coalition

- Successful transformations must be guided by a powerful coalition that can act as a team
- The coalition is needed because no one individual has the information needed to make all major decisions or the time and credibility needed to convince lots of people to implement the decisions

a Vision and Strategy

- Vision refers to a picture of the future with some implicit or explicit commentary on why people should strive to create that future.
- 3 purposes
  - Clarifies the general direction for change
  - Motivates people to take action
  - Coordinates the efforts of different people
- Must be conveyable in 5 minutes or less

ating the Change Vision

- The real power of a vision is unleashed when most of those involved in an enterprise have a common understanding of its goals and direction
- You cannot overcommunicate the vision!
- A common mistake by the guiding coalition is to assume the organization can quickly come to grips with the vision

g Employees for Action

- Major organizational transformations rarely happen unless many people assist
- Employees generally won't help if they feel relatively powerless

Short-Term Wins

- Major changes take time
- People need to see convincing evidence that the effort is paying off
- Focus on short-term wins raises the urgency level and ties the transformation effort to the vision and strategy

ing Gains/Creating More Change

- If the sense of urgency is lowered, critical momentum can be lost and regression follows
- Irrational and political resistance to change never fully dissipates
- Avoid the temptation to “take a break”
- Leadership must keep a long term focus on the vision and anticipated results

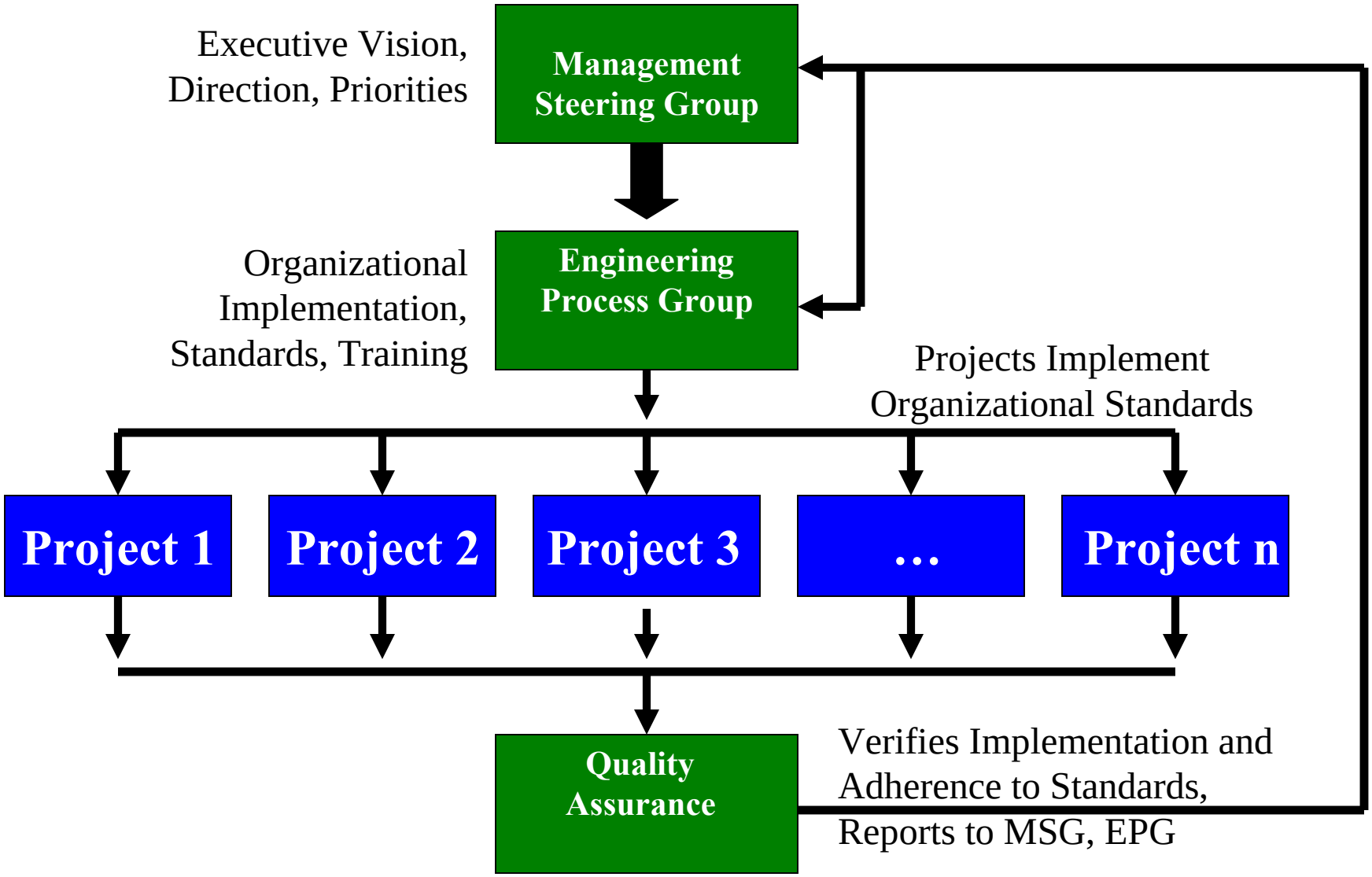
New Approaches in the Culture

- The goal is to permanently change the organization's shared values
- Cultural changes come last, not first
- Cultural norms are many times difficult to change
- Cultural shared values are extremely difficult to change
- Will the transformation effort transcend any particular individuals???

plement an Engineering System?

- Create an infrastructure that:
  - Leverages organizational transformation principles
  - Allows for senior management prioritization of engineering system implementation
  - Facilitates organizational buy-in and cooperation
  - Encourages cross-organizational communication
  - Reduces resistance of engineering system adoption through rewards based on independently verifiable achievement of management's expectations
  - Allows management visibility into the use of the franchisable engineering system

Transformation Infrastructure



tting the Stage

1. Establish Executive Sponsorship with the expectation it is active, not passive
2. Clearly tie the effort to business goals
3. Establish a guiding coalition (MSG/EPG) of movers and shakers from across the organization to drive the strategy, approach, and plan
4. Projectize the effort, assign a cost center, and treat it like a project with clear milestones and reviews
5. Conduct a comprehensive process, project, personnel, and financial appraisals to establish an organizational baseline
6. Tie implementation & adoption objectives to each individual's performance review

tablishing the System

7. Establish a measurement capability early, but don't overwhelm projects with data gathering requirements
8. Establish QA early to help guide and mentor, and to report engineering system adoption progress
9. Ensure project schedules going forward contain all the required elements to meet the effort's objectives
10. Either adopt processes & tools that meets your needs, or have the EPG design ones that are better suited
11. Projects tailor the franchise prototype, use them, and begin performing better!
12. Continue to monitor key business measures, execute QA, and conduct senior management reviews to drive urgency.

- The outcome will be an integrated, organizationally cooperative infrastructure that:
  - developed and deployed a franchised engineering system
  - is the foundation for a successful organizational transformation
  - facilitates engineering system improvement based on consensus priorities
  - provides an environment that supports project buy-in and adoption of improvements
  - communicates effectively across the organization
  - reports results to senior management

Questions?

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